NEWSLINE

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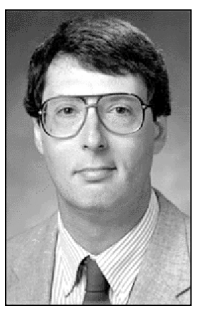

From the Director's Office

Harry Radousky

Institutes open doors to collaborative research

LLNL has five University/Lab institutes that operate under the auspices of the University Relations Program (URP). The objective of these institutes is to improve access to DOE's unique facilities, contribute to science education, strengthen existing LLNL programs, develop new initiatives and enhance access of Lab researchers to both UC and the larger university community.

As acting director of the University Relations Program, I would like to give you an overview of the history, goals and research directions of these institutes. *Newsline* will be running articles discussing the unique features of each institute, with the overall goal of making the Lab more aware of the institutes' functions and how they might be helpful to anyone interested in expanding university interactions.

The five University/Lab institutes fall in the middle of the spectrum of university collaborations at LLNL. While they are less formal than large programs such as the ASCI Alliances, they are much more structured than an individual one-faculty/one-staff member interaction. The general philosophy is to operate with a core permanent staff, while hosting large numbers of post-docs, students, visiting faculty, and Lab staff who participate in the institutes' activities. Each institute also hosts an active seminar series and collaborative research program, and provides a focus for communication between Lab researchers and the broad academic community.

The institutes form a centerpiece for the Laboratory's research collaborations with universities. The institutes are all strongly aligned with one or more of the directorates, and strive to have a high profile in the university community. These institutes are:

• The Center for Accelerator Mass Spectrometry (CAMS);

• The Institute for Geophysics and Planetary Physics (IGPP);

• The Institute for Laser Science and Applications (ILSA);

• The Institute for Scientific Computing Research (ISCR); and

• The Materials Research Institute (MRI).

The first University/Lab institute was IGPP, founded by Claire Max in 1983. Over these past 18 years, the number and impor-

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Hoya steps up NIF glass production

PUBLIC AFFAIRS OFFICE

A major technological milestone in optical glass melting has been achieved by Hoya Corporation USA, a laser glass manufacturer in Fremont. Hoya is using a novel continuous glass melting system (approximately 150 feet long and two stories high) to produce 20 tons of high quality laser glass per month.

The laser glass will be used in the National Ignition Facility,

To date the system has produced more than 600 neodymium-doped laser amplifier glass slabs for the NIF and 125 slabs for the Laser Megajoule pro-

See **GLASS,** *page 8*

FSC analysis may seal 'angel's' fate

By Sheri Byrd
NEWSLINE STAFF WRITER

The re-arrest on Jan. 16 of Efren Saldivar, the self-proclaimed "Angel of Death" and alleged killer of the terminally ill at a Glendale hospital, could not have happened without the assistance of the Lab's Forensic Science Center and its director Brian Andresen.

Special analyses by the center gave Glendale investigators the evidence they could use to arrest Saldivar and charge him with the murders of six patients.

Saldivar, a former respiratory therapist at Glendale Adventist Medical Center, was first arrested in 1998 following an investigation based on a tip from a fellow hospital worker. He confessed to killing between 100 and 200 patients that he deemed "ready to die," but later recanted his confession, citing

See **FSC,** *page 8*

JOSEPH MARTINEZ/TID

Armando Alcaraz and Brian Andresen inspect the electrospray assembly that is the heart of the advanced triple quadrupole mass spectrometry technology utilized to identify polar compounds in complex biological samples.

Groundwork for extensive employee survey under way

A comprehensive survey of employee attitudes and concerns about workforce issues is to be conducted this spring at the Laboratory and is now under development.

The goal is to conduct the survey, assess the results and implement a full set of recommendations within the calendar year.

In his Jan. 12 *Newsline* column, Director Bruce Tarter said, "we need to maintain our highly skilled workforce as we prepare for the future. I want to ensure that the Lab is seen as a good place to work, 'an employer of choice.'"

International Survey Research (ISR), which conducted the 1995 diversity survey, will develop and conduct the new workforce issues survey. In addition to obtaining comprehensive information as to the con-

See **SURVEY,** *page 4*

Kuckuck farewell Feb. 9; all employees invited

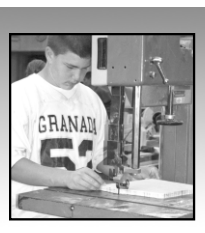
Director Bruce Tarter invites all employees to a special celebration in honor of Bob Kuckuck, the deputy director for Operations. The reception will be held 3:30 to 6:30 p.m. Friday, Feb. 9, in the West Cafe.

Bob Kuckuck

Kuckuck is retiring on Jan. 31, but will continue to work on special Lab projects, such as the upcoming employee survey. Kuckuck has worked at the Lab and University of California for more than 37 years, both in science, and operations and administration.

Newsline will have more details on Kuckuck's career in the Feb. 9 edition

CIO update: revisions to device registration — Page 3



Ergonomics now elementary, thanks to Lab help — Page 5

DIRECTOR'S OFFICE

Continued from page 1

tance of the institutes has grown, along with LLNL's need to recruit from and engage with the best faculty and students in universities across the country and around the world.

The institutes interact with over 80 universities worldwide. In addition, approximately 50 institute students or post-docs have gone on to faculty positions. Students play a particularly strong role in the institutes, since they are often the "glue" that holds together a research collaboration, as well as adding greatly to the intellectual vitality of the institute environment. Over the years, more than 144 Ph.D. theses have been completed based on institute research. In addition, roughly one quarter of all LLNL publications can be associated with one or more of the institutes. Fifty-five LLNL new hires have involved people who have had an institute experience.

Four specific goals of the institutes include establishing long-term research collaborations on a national scale, assisting the Lab in accomplishing its mission, enhancing the Lab's ability to recruit top research talent, and investing in future national decision makers. A particular strength of the institutes is their ability to involve the university community with the Lab's unique experimental and computational facilities, such as LLNL's accelerator mass spectrometers, the nuclear microprobe, LLNL lasers and target chamber diagnostics, ASCI visualization tools, high pressure experimental facilities, LLNL adaptive optics, robotic telescopes, and the positron annihilation facility.

One service the institutes can offer is to provide white space to foster interactions with the academic community. These open areas are used by LLNL programs as places where students, faculty and Lab staff can work together. This has been a particularly important feature of the institutes over the past 18 months.

While the individual *Newsline* articles will discuss each institute in detail, I want to give some flavor of the unique nature of each one, their general areas of expertise, and some examples of their high profile research projects:

IGPP

IGPP has two centers, one in astrophysics and a second in geosciences. IGPP at LLNL is actually a branch of a UC Multi-campus Research Unit that began operation in 1946 with a charter to further research in the earth and planetary sciences. Branches of the IGPP also exist at UCLA, UC-San Diego, UC-Riverside, UC-Santa Cruz and at LANL. The acting director of IGPP is Kem Cook.

Two examples of research in the IGPP Astrophysics Center at LLNL include the MACHO (Massive Complex Halo Objects) project, which is an experimental search for dark matter in the Milky Way Galaxy and the TAOS (Taiwanese American Occultation Survey) project, which is searching for asteroids in the outer reaches of our solar system. An example from the Geosciences Center is the use of geospeedometry to trace the uplift of the Himalayan Mountains.

CAMS

CAMS continues to lead the development and application of isotopic abundance measurement and ion-beam analytical techniques that support LLNL missions while enhancing and enabling university research. CAMS is involved in a wide variety of research topics that range from understanding carbon sequestration and global climate change to biological tracing of chemicals in humans and animals. One particular use of CAMS that has always intrigued me has been the ability to use salmon scales, archived by fisheries over the past hundred years to develop a record of radiocarbon in the oceans for the 20th century. The director of CAMS is John Knezovich. The specific article on CAMS appears in this issue of *Newsline* on page 3.

ISCR

ISCR has as its mission to foster collaborations between LLNL and academic researchers in the areas of scientific computing, computer science, and computational mathematics. ISCR is also part of CASC (Center for Applied Scientific Computing). A particular example of ISCR research is the terascale visualization technique used on the three-dimensional Richtmyer-Meshkov instability simulation on ASCI Blue that led to the 1999 Gordon Bell prize for peak performance. A second example, on the development of data mining techniques, highlights one of the many interactive projects between the institutes. The data used as a test for the new data mining techniques was an extremely large astrophysical data set developed by a UC Davis professor working in IGPP. The Acting director of ISCR is David Keyes.

ILSA

ILSA has as its mission strengthening research collaborations in the area of high-power lasers and their applications. One of its main objectives is the training of the next generation of laser-matter interaction scientists who will use the National Ignition Facility (NIF) when it is completed. ILSA research programs include: Parametric Instabilities in Laser Plasmas, Short Pulse Interaction Physics, Computational Methods for Fast Ignitor Physics, Particle-Photon Interaction Physics, Laser Accelerators and X-ray Lasers and Imaging for Biological Applications. The director of ILSA is Hector Baldis.

MRI

MRI is the newest of the institutes, and has focused on the areas of optical and electronic materials, metals and organics, and biomaterials. I had the privilege of being the founding MRI director for 1997-2000. Having an institute in the area of materials science has unique challenges/advantages in that this discipline at the Lab is spread over many of the directorates. In recent months, MRI has increasingly become a focus for the Lab's efforts in nano-technology and laser-matter interactions, running very successful workshops in both areas. Some examples of research in MRI include fundamental studies of laser damage in NIF-related optics, and determining the structure of bio-materials interfaces using third generation synchrotron-based X-ray diffraction. The director of MRI is Michael McElfresh.

Future opportunities

In summary, my hope in writing this column is to give everyone at the Lab a better understanding of how the institutes function, and what they can do for LLNL researchers and the directorates. As part of my goal to improve communications with both Lab researchers and the university community, a newsletter listing funding opportunities at LLNL has just been published; it includes information on responding to upcoming calls for proposals from the five institutes (http://www.llnl.gov/urp/fco/.)

See Newsline on the Web at http://www.llnl.gov/PAO/Newsstand/ internal-

CLASSIFIED ADS

RIDESHARING

Express your commute, call 2-RIDE for more information or visit the web site at http://www-r.llnl.gov/tsmp/ for more information

Danville Vanpool needs driver for homeward bound leg and vacation-relief. Fare would be reduced to $30/mo with tax incentives available. 925-837-4097 (2-6234)

San Jose - South San Jose-Commuter Partner Leave SJ 8:00am return 6:00pm Work Hours are flexable 408-779-7854, ext. 3-3063

Palo Alto/Menlo Park/Mountain View - flexible,occasional 650-838-9451, ext. 3-3330

Danville - van pool 8-4:45 $55/mo. There are county, State and Fed incentives which can make the first 3 months almost free. 925-837-4097, ext. 2-6234

Lafayette - LaMorinda (also Walnut Creek stop at Rudgear Rd) luxury Vanpool (reclining seats, reading lights) 8-4:45, $115/mo (pretax reduction available) David 925-376-5346, ext. 2-3005

Modesto - WORKING 4-10 WEEKLY SHIFT? Lets get together and start a vanpool. 6-4:30 monday thru friday. 209-667-2365, ext. 2-8321

Modesto - Commuter Partner Wanted, Lab Hours 8:00 a.m. till 4:30 p.m. M-F. From Vintage Fair Mall. A209-529-0431, ext. 2-8828

San Jose & Fremont-Mission - Space is available from San Jose and Fremont-Mission areas. Work hours: 7:30-4:30. 408-238-1909, ext. 3-3057

Oakland-Monclair District - SEEKING NEW RIDERS; relax, enjoy your commute, come ride with us! Dependable, prompt and courteous service. 510-834-6405, ext. 4-5173

Discovery Bay - Looking for additional driver/rider from Discovery Bay, 7:30-4:15. 925-634-5754, ext. 3-5481

SERVICES

Quality Childcare Available - close to lab, ages 2 and up. 925-371-0620

Expert painting, interior/exterior. Professional painter, many years experience. Free estimates. 925-828-6190 925-634-0560

TUTORING in high school and college chemistry and math. 925-443-2095

Hauling Service. Estate cleanouts, Attics, Garage, Shed & Barns. Misc... 925-373-9540

Handyman for hire, fix it or replace it. Sprinkler specialist, plumbing, sod lawns,drain cleaning. 209-847-6623

TRUCKS & TRAILERS

1992 - Ford Ranger, 4-speed, 84K miles, air. Nice condition. Call evenings. 209-823-3606

1995 - RV 36 feet Residency diesel pusher; many extras; excellcondition, call for details. $77,700.00. 925-449-0430

1995 - Chev. 4x4 Silverado 1500x Cab, 8 ft. bed, Leer shell, Lund BDS, AM/FM/CD, Sec. system, 29K mi, $17,750, clean 925-449-4788

2000 - Dodge Dakota SLT King Cab, Automatic, Air, Power, Cruise, Line-A-Bed. $17,500 obo. 925-373-9680

1987 - Class C MH 22ft. Ford 460cc, ps, cc, ac, CD, 70k miles. Solar panels, meter, 25 gal. tank, tub/shower, self-contained, nice, sleeps 6, $9,500/obo. 408-499-3312

VACATION RENTALS

SOUTH LAKE TAHOE - 3 Bedroom 2Bath Chalet, nicely furnished,all amenities, quiet area, close to all skiing, Few weekends left,Reserve Now! 209-599-4644

Twain Harte - Fully furnished.2bdr 2full bath.Cable TV,VCR, washer,dryer, microwave,dishwasher and more.Close to Dodge Ridge ski area.$150wknd $300wk 925-443-2808

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. Low LLNL rates for year-round reservations. 925-449-0761

WANTED

Artificial silk plants wanted, one or two medium size ficus or similar, will pay reasonable price. 925-736-7799

HOUSECLEANER WANTED: Someone who can clean a <2000 sq ft house in Livermore to a high standard of cleanliness. Once per week. 650-291-8884

I need bodies to practice my energy massage on. Very relaxing work, light pressure. Tri-Valley area. Fully clothed. No cost! 510-791-8623

Wanted: used drum set for teenage boy. Nothing fancy. 925-443-1828

MAVIS BEACON TEACHES TYPING - older version that does not require Power Mac 925-443-4918

3-inch pipe for posts. About 60 feet. 925-455-0486

CAMPER SHELL that can fit onto a 1991 Toyota standard bed pickup truck. 510-581-4609

Wanted: Acoustic Electric Guitar for my 11 year old son. Will pay reasonable price. 925-833-0186

Wanted- Tent Trailer to buy. Newer model preferred. 925-449-8757

Want licensed electrician to help move and add some lites to ceilings of home. 925-447-0844

WANTED: old wind up phonograph all or parts. Also interested in anything from 1950s or older 925-449-0388

Host families for Japanese exchange students in the Modesto/Oakdale area for one weekend in March. 209-527-0495

Wanted someone with FFL to handle a mail-order for me. 925-876-1046

Bosch universal mixing machine, 925-846-3592

Employees are responsible for ensuring the content of their ad is accurate.